

ELECTROSURGICAL COAGULATING AND CUTTING INSTRUMENT

Cross Reference to Related Applications

[0001] This application is a divisional of U.S. 09/390,087, filed September 3, 1999, ^{now U.S. Pat. No. 6,419,675} the priority of which is claimed herein and the entire disclosure of which is incorporated herein by reference.

Background and Summary of the Invention

[0002] This invention relates to endoscopic surgery and, in particular, to an improved electrosurgical coagulating and cutting instrument.

[0003] There are a number of endoscopic instruments having movable jaws formed at the distal ends of clamping arms which diverge distally. Closure is typically effected by distally advancing a collar or other component over the diverging arms so as to urge the arms and jaws together. Examples of such devices are found in U.S. Patent Nos. 5,258,006; 5,445,638; 5,527,313 and 5,735,849. Relatively few of these devices close at their tips before fully grasping target tissue, thus making it difficult to capture such tissue. Furthermore, the maximum width of the opening between the jaws tends to be limited by the diameter of the tubular sheath housing the movable components of such instruments. Another shortcoming of the prior art involves unnecessarily complicated ratcheting mechanisms for preventing the opening of jaws once closed. Such mechanisms often provide for only coarse incremental ratcheting of the closure movements to the jaws. Yet another shortcoming of prior art devices is that those containing cutting elements lack sufficient protection against unintended advancing of the cutter when the jaws are open, thereby creating the danger of unintentionally lacerating tissue in the vicinity